

Appl. No. : 10/031,021  
Filed : March 19, 2002

### AMENDMENTS TO THE CLAIMS

1. **(Currently amended)** A sterile female genetically modified mouse comprising a mutation, a partial deletion or a total deletion in each allele of endogenous genetic sequence encoding the wild type alpha-fetoprotein (AFP), wherein said mutation, partial deletion or total deletion results in loss of expression of a functional AFP.

2. **(Canceled)**

3. **(Canceled)**

4. **(Currently amended)** The sterile female genetically modified mouse of claim 1, wherein said sterile female genetically modified mouse is homozygous for a mutation, a partial deletion or a total deletion in endogenous genetic sequence encoding ~~the wild type~~ a functional alpha-fetoprotein (AFP).

5. **(Canceled)**

6. **(Currently amended)** The sterile female genetically modified mouse of claim 4, wherein said sterile female genetically modified mouse does not undergo a ~~menstrual cyclization~~ complete reproductive cycle.

7. **(Previously presented)** The sterile female genetically modified mouse of claim 4, wherein said sterile female genetically modified mouse does not allow an uteral nidification of an embryo.

8. **(Cancelled)**

9. **(Withdrawn)** A pluripotential embryonic stem cell comprising a partial or a total deletion of a genetic sequence encoding a mammal alpha-fetoprotein (AFP).

10. **(Currently amended)** A method for identifying an agent for use in preventing osteoporosis, increasing fertility, or preventing conception comprising:

obtaining a sterile female genetically modified mouse comprising a mutation, a partial deletion or a total deletion in each allele of endogenous genetic sequence encoding the wild type ~~mammal~~ alpha-fetoprotein (AFP), wherein said mutation, partial deletion or total deletion results in loss of expression of functional AFP;

contacting said sterile female genetically modified mouse with said agent; and

determining the effects of said agent on osteoporosis, fertility or contraception in said sterile female genetically modified mouse.

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11. **(Withdrawn)** A method for identifying a molecule that is able to bind to alpha-fetoprotein or a portion thereof comprising contacting said alpha-fetoprotein or portion thereof with a molecule and measuring binding of said molecule to said alpha-fetoprotein or portion thereof.

12. **(Withdrawn)** A composition comprising alpha-fetoprotein or a portion thereof fixed to a solid surface.

13. **(Withdrawn)** The embryonic stem cell of claim 9, wherein said stem cell is a mouse cell.

14. **(Previously presented)** A genetically modified mouse, wherein said genetically modified mouse is heterozygous for a mutation, a partial deletion or a total deletion in endogenous genetic sequence encoding the wild type alpha-fetoprotein (AFP).

15. **(Previously presented)** The genetically modified mouse of Claim 14, wherein said mutation, partial deletion, or total deletion in said endogenous genetic sequence encoding the wild type alpha-fetoprotein causes sterility when present in homozygous form in a female mouse.

16. **(New)** A sterile female genetically modified mouse which does not express a functional wild type alpha-fetoprotein (AFP).

17. **(New)** A method for identifying an agent for use in preventing osteoporosis, increasing fertility, or preventing conception comprising:

obtaining a sterile female genetically modified mouse which does not express a functional wild type alpha-fetoprotein (AFP);

contacting said sterile female genetically modified mouse with said agent; and

determining the effects of said agent on osteoporosis, fertility or contraception in said sterile female genetically modified mouse.

18. **(New)** A sterile female genetically engineered mouse wherein said mouse is sterile as a result of not having a sufficient level of active alpha-fetoprotein to confer fertility.